SCH4U Oxidation of Alcohols:

**Purpose**: to test the oxidation of primary, secondary , and tertiary alcohols.

**Equipment and materials:**

Chemical safety goggles

3 test tubes

Test tube track

Dropper bottles containing:

-butan-1-ol

-butan-2-ol

-2-methylpropan-2-ol

-Potassium permanganate solution, KMnO4 (0.01 mol/L)

Procedure:

1. Label 3 test tubes 1 to 3 and place in a test tube track.
2. Add 4 drops of butan-1ol to test tube 1, butan-2-ol to test tube 2 and 2-methyl propan-2-ol to test tube 3.
3. To each test tube, carefully add 20 drops of potassium permanganate solution. Mix carefully by shaking the content of the test tube.
4. Allow the test tubes to stand for 5 min with occasional gentle shaking.
5. Observe and record the colour of the solution in each tube.
6. Empty the contents of the test tube in the organic waste container provided.

Analysis:

What evidence of reactions did you observe?

Write the structural formula equations to represent each of the three reactions.